ENVIRONMENTAL NEWS

Newsletter of the N.H. Department of Environmental Services July/August 2006

Governor's Message

HB1747 provides funding for DES Shellfish Program

New Hampshire's natural resources are the foundation of our economic prosperity and we must protect and restore them. The state and its many partners have worked hard to preserve the landscapes around Great Bay and the Seacoast and we have worked to protect and improve water quality in the region. DES is also working to restore a vital component of New Hampshire's coastal ecosystem – shellfish.

Governor Lynch

Shellfishing in New England is an old and rich tradition, first taught to European settlers by the various Native American tribes of the region. Although New Hampshire has a relatively small coastal area, we share the region's bountiful shellfish resources. However, like much of our environment, our shellfish areas have fallen victim to water pollution and degradation caused by development and industry. For a period, it appeared that New Hampshire was in jeopardy of permanently losing our source of clean, safe shellfish for harvesting.

After a prolonged period of har-

Governor, *continued on page 8*

Suncook River charts own course

NHGS assesses the dramatic shift

by Chad Wittkop, New Hampshire Geological Survey

Large portions of a river's channel can become abandoned through a process known as avulsion. High water levels during flood events seek the path of least resistance to flow, and can at times find and follow a new course. A common form of avulsion occurs within a river's floodplain when a meander bend is bypassed at its neck, leaving the abandoned section of channel to become an oxbow lake.

River avulsion outside the normal floodplain is much more unusual. Such an event occurred on the Suncook River in Epsom during the flooding of May 14-15, when the river left its floodplain and initiated formation of a 0.44-mile section of new valley, abandoning 1.52 miles of old channel in the process.

The former course of the Suncook River around Bear Island was determined by a series of low glacial ridges composed of sand and gravel, which acted as natural levees and directed the river west above Bear Island. Near the Old Mill, a 0.5-mile reach of the Suncook flowed through an area of shallow bedrock, creating a unique habitat for the rare brook floater mussel.

In the 10,000 years since the glaciers

NHGS, *continued on page 4*

Rocky portion of abandoned channel just east of the Old Mill. Here the Suncook flowed through an area of shallow bedrock unique to the area.

Commissioner's Column

In pursuit of a reliable energy supply – the NH process

One of the most critical issues facing New Hampshire today is uncertainty about our energy supply and the relationship it has with the economy, the environment and public health. It is also important for our state to rely on a mix of energy sources to protect against unexpected disruptions of that supply due to market forces or strife across the globe. I'd like to describe the process used for the orderly development of energy facilities here in New Hampshire.

In the mid-1960s, a new, two-unit nuclear power plant was proposed for Seabrook that became operational more than a decade later. In 1971, Aristotle Onassis announced plans to build an oil refinery near our seacoast. The mid-1980s saw the construction of the Hydro-Quebec electric transmission line that bisects New Hampshire from north to south. And in 1998, plans for two major natural gas pipelines were proposed, and then completed in 2001. These pipelines in turn spawned the construction of two new, combined-cycle, natural gas-fired electric power generation facilities in Londonderry and Newington.

These projects demanded the highest level of review by federal, state and local agencies, as well as businesses, civic groups and the general public. The state Legislature responded to that need by enacting legislation to regulate such major energy projects. The current law, RSA 162-H, "Energy Facility Evaluation, Siting, Construction and Operation," has been used successfully for several of the above-cited projects. The Legislature recognized, in part, "… that the public interest requires that it is essential to maintain a balance between the environment and the possible need for new energy facilities in New Hampshire; that undue delay in construction of any needed facilities be avoided; and that the state ensure that the construction and operation of energy facilities is treated as a significant aspect of land-use planning in which all environmental, economic and technical issues are resolved in an integrated fashion" (RSA 162-H:1).

The photograph shows a transmission line substation in Laconia. These types of "corridor" projects pose different issues in terms of environmental impacts, abutter concerns, and land use changes when compared to a single site application, such as a fuel storage facility or power plant. Source: nhsec.state.nh.us.

It established a deliberative body known as the Energy Facility Site Evaluation Committee (SEC), on which I serve as chair. The SEC is composed of 14 senior officials from seven state agencies and operates under a nine-month timeline (for most projects) toward the formulation of a decision.

In 2002, the *State Energy Plan* recommended that the SEC become more involved with renewable energy projects. A proposal for the construction of a wind farm in the town of Lempster is being addressed through this process. New Hampshire, like other states, seeks to diversify its energy portfolio and encourage less-polluting forms of energy production. I expect the SEC will be presented with more of these renewable projects in the future.

Public participation plays a key role in the proper processing of such applications. Ultimately, it is the public that will be most impacted by these decisions. The SEC maintains its own website at http://nhsec.state.nh.us to enable more informed participation by all parties, and I urge all who are presented with such projects in their communities to take advantage of this resource to help secure a reliable energy supply for the state, while maintaining a strong economy, a clean environment, and unwavering protection of public health.

On an entirely different note – I am pleased to announce that Harry Stewart was unanimously confirmed by Governor and Council for another four-year term as the Water Division Director. Please join me in congratulating Harry on his reappointment and in thanking him for all he has done for the department and the State of New Hampshire over the past eight years.

Michael P. Nolin, *Commissioner*

ENVIRONMENTAL NEWS

NHDES

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UST Program increases efficiency with PDAs

by Lynn A. Woodard

To prevent releases from occurring or to detect existing releases from New Hampshire's approximately 1,900 regulated petroleum underground storage tank (UST) facilities, the DES Underground Storage Tank Program has established an aggressive on-site operational compliance inspection program. DES conducts approximately 800 inspections annually. To conduct such a high number of inspections, it is necessary to consistently incorporate good management practices by eliminating waste and duplicative efforts, and to determine what is or isn't value-added.

DES substantially improved its inspection process by incorporating the use of portable digital assistants (PDAs), or hand-held computers. DES contracted with a computer software developer to design an on-site operational compliance inspection application that could be used on a PDA. The application allows inspectors to download facility information from the main ORACLE database at DES to the PDA, input the on-site inspection compliance checklist information to the PDA, print a deficiency letter while on-site via Bluetooth technology to a portable printer, and upon returning to the office wirelessly synchronize the PDA with the ORACLE database and upload the inspection information. It is no longer necessary for staff to return to the office to write a deficiency letter to be mailed to the UST facility owner, nor does field-collected data have to be retyped into the database.

DES inspector uses his PDA and portable printer to print deficiency letters on-site.

Incorporation of the PDA application to the UST operational compliance inspection program has improved the efficiency of data collection, reduced paper, improved the accuracy of data input, and saved substantial DES time.

DES recently amended the software developer's contract to include a module to support field inspection for above-ground storage tank (AST) systems. Additionally, the contract amendment will provide for technical knowledge transfer for the NH Office of Information Technology staff. This knowledge transfer will enable OIT to extend the knowledge gained from DES use of the UST/AST software development to other state programs. ■

The New Hampshire Association of Septage Haulers (NHASH) recently recognized DES Commissioner Michael Nolin (second from left) for his commitment to furthering septage management in New Hampshire. This special acknowledgment of Commissioner Nolin is in response to his efforts to understand septage management issues and to deliver results on key issues. Commissioner Nolin's actions include help in passing new septage administrative rules that encourage the use of innovative alternative treatment of septage disposal, obtaining $600,000 in federal funding for a project at the Franklin Wastewater Treatment Facility and encouragement of public/private partnerships for enhanced septage disposal capacity, such as in Pittsfield and Littleton. Pictured with the commissioner are NHASH Vice President Bill Gosse, Executive Councilor Ray Wieczorek, Rep. Betsy Patten, and NHASH President Darlene Johnson.

ALERT

Do you own or operate an on-site electrical generator?

In accordance with Chapter Env-A 3700, all on-site electrical generators will become subject to Env-A 3700 "NOx Emissions Reduction Fund for NOx-Emitting Generation Sources" on **November 18, 2007**.

Some generators have been exempted until then because they were permitted on or before July 1, 1999. Env-A 3700 stipulates that emissions of nitrogen oxides (NOx) from applicable generators after November 18, 2007, are subject to fees of $1,000 per ton during the months of May through September and $500 per ton during other months.

DES advises owners and operators of these generators to plan accordingly during the coming year so that they will be prepared for future NOx emissions recordkeeping, reporting and fee payment requirements. Fees for applicable engines may be avoided by discontinuing operation of the engines and purchasing power from a local utility. The rule is available on DES's Administrative Rules website or from DES's Public Information Center at (603) 271-2975. For more information, contact Joe Fontaine of the Air Resources Division at (603) 271-6794 or jfontaine@des.state.nh.us. ■

NHGS

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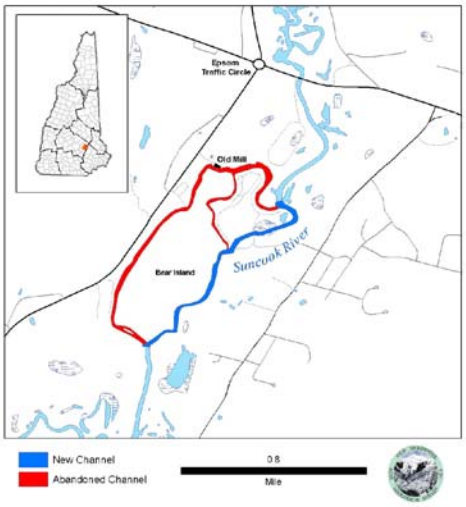
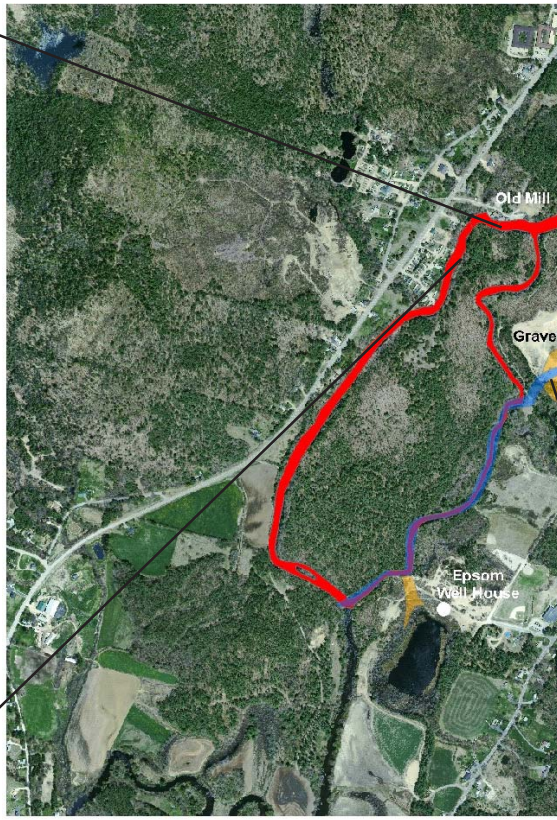
left the region, the Suncook River has worked to find a more direct route through the Bear Island area, as evidenced by a small pre-existing gap in the glacial ridge through which the river now flows. Human intervention may have hastened this change through the excavation of the sand and gravel deposits that comprised these ridges.

The Old Mill dam in the portion of abandoned channel.

During the May 14-15 avulsion event, the river breached a glacial ridge at the southwestern corner of a gravel pit, initiating rapid formation of the new channel through easily eroded glacial lake and wetland sediments. Post-flood surveys uncovered a high-water mark around the edges of the gravel pit, indicating that water pooled there to a depth of three to four feet during the flood. Excavations in the gravel pit artificially expanded the Suncook's floodplain and allowed high waters to reach nearer the natural gap in the glacial ridge than would have otherwise occurred if the flooding were limited to the native wetland area.

New Hampshire Geological Survey staff have worked to collect field data and analyze available geologic information in an effort to better understand this unique event. These efforts included collecting high-precision GPS data used to generate the first accurate maps of the new channel's location. NHGS will continue to gather data, perform analysis, and share results with the public as this unique situation develops. ■





Rare brook floater rescued

by Susi von Oettingen, US Fish and Wildlife Service

When the two original channels of the Suncook River were left virtually dewatered from the river's change in course, NH Fish and Game biologist Kim Tuttle alerted NHFG staff and the US Fish and Wildlife Service that state-endangered brook floaters (*Alasmidonta Varicose*) could be in the abandoned channels since they were known to occur upriver. On the Friday after the Suncook realigned its channel, NHFG and USFWS staff visited the dewatered channels to discover one of the largest populations of brook floaters in the remaining pools of water and shallow flowing areas.

Assisted by volunteers from The Nature Conservancy, biologists from the USFWS and the NHFG moved over 1,100 brook floaters in two days from the upper reaches of the east and west channels that were slowly drying up. Other mussels were also found; those that were uncommon in the Suncook, such as the alewife floater and the triangle floater, were also removed. The USFWS's national fish hatchery in Nashua was asked to care for the rescued brook floaters.

The mussels were placed 150 to a tank and small numbered tags were glued to their shells. Once the river's

Mussels, *continued on next page*

Mussels

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new course has been confirmed , the brook floaters will be relocated to two sites upriver of their original home where other brook floaters have been found. The tags will help biologists relocate mussels and determine the survival rate of the rescued mussels.

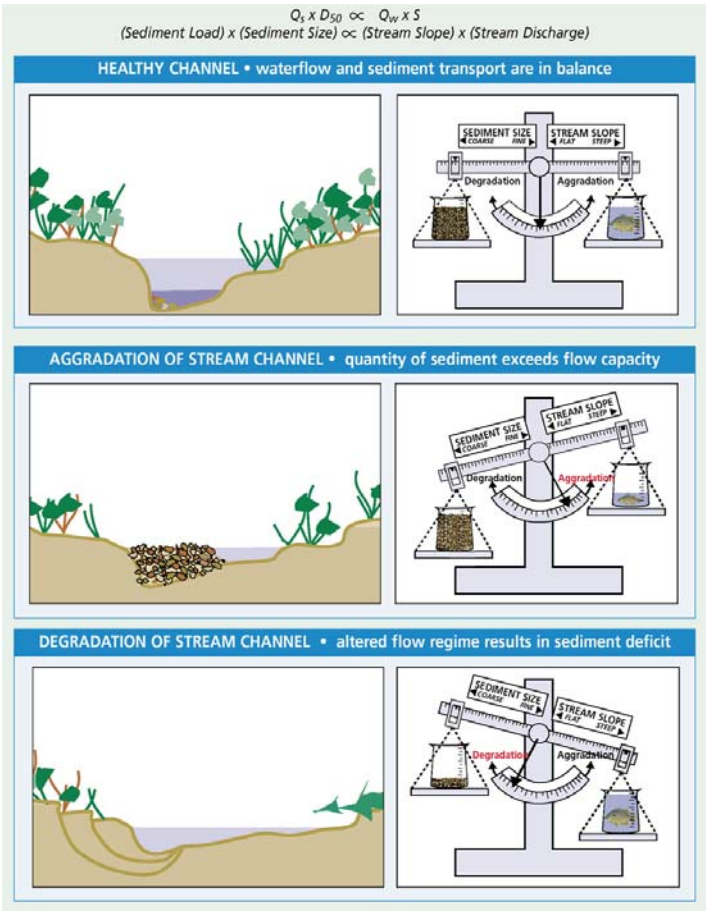
The Suncook discovery represents possibly the largest population of brook floaters in New Hampshire. A portion of this population will be lost, but should sufficient water and flow remain in the old channels, enough mussels should remain to keep a smaller population alive. Whether the relocated mussels will adjust to their new homes is unknown, but biologists will monitor them to answer that question. ■

Below. *The new channel of the Suncook near the point where floodwaters breached the gravel pit, initiating formation of the new channel.*

River dynamics

by Steve Couture, NH Rivers Program

It is quite common for riverfront landowners or those that recreate on New Hampshire rivers to come across stream-banks that are eroding. It is also common to respond to these occurrences by asking "what can I do to fix them?" However, you may or may not be able to or want to "fix them." In order to answer that question, you need to understand the dynamic nature of rivers and streams.



Source: Ontario Ministry of Natural Resources, 2001.

Rivers and streams are dynamic. They are not fixed to a certain location in perpetuity, but rather are constantly adjusting within a state of equilibrium or balance. This state of equilibrium occurs when rivers achieve a balance between the water flow of the river and the sediment the river transports. An example of a healthy channel, where there is a balance between water flow and sediment transport is depicted above.

A river can also be thrown out of balance. Significant flood events, human impacts to riparian vegetation, or other factors can cause a river to have to re-adjust. For example, a significant flood event may cause a river to transport more sediment downstream than it normally would. This could cause degradation of the streambank and river channel due to a sediment deficit: the water flow needed more sediment than was normally available in a balanced situation. This imbalanced situation usually continues downstream. Where the floodwaters slowed, sediment usually is deposited or aggrades in the river channel. This time the water flow was transporting more sediment than it needed.

As rivers strive to return to a balanced state, they will move laterally and vertically over time. For example a stretch of river with a sediment deficit may try to gain balance by eroding a bank with readily available soils. Keep this in mind as you swim, fish, or canoe near an eroding bank. If you ask the question "is the river in balance?" before you ask "can we fix it?," you are closer to getting the right answer. ■

Raymond awarded $200,000 EPA Brownfields Cleanup Grant

The US Environmental Protection Agency recently awarded the town of Raymond a $200,000 Brownfields Cleanup Grant for the former Rex Leather Tannery site.

The former Rex Leather Tannery conducted tannery operations, including the processing of previously tanned hides, from 1953 to 1972. The property has been idle since 1972 when the main tannery building was destroyed by fire. Existing site features associated with the previous tannery operation include a concrete foundation/slab, remnant sections of a subsurface piping system associated with the former tannery building, and three former wastewater lagoons, two of which are currently dry. Contamination at the site consists of buried leather scraps, former wastewater lagoons containing chromium solids, and chromium, lead and PCB contaminated soils.

Site investigation work was first initiated in 2003 under an EPA Brownfields Assessment Grant administered by the New Hampshire Coastal Program. Additional site investigation work was continued in 2004 until the present using DES's Brownfields assessment funding. DES's contract consultant, GZA GeoEnvironmental, Inc., has performed the site investigations and remedial planning. The cleanup grant funds will be used for the excavation and off-site disposal of lead and PCB contaminated soils and the excavation, on-site consolidation and capping of leather waste and chromium contaminated soils.

The success of this project is due to the cooperative efforts and support of EPA, DES's Coastal and Brownfields programs, the town of Raymond and Hardrock Development LLC, the current property owners. The cleanup grant awarded to Raymond will allow the site cleanup to be completed and position the site for productive reuse. Proposed future uses of the site include municipal facilities and a much-needed wastewater treatment plant. The proposed wastewater treatment facility would help address failing septic systems in downtown Raymond as well as attract retail, commercial, and light industrial businesses, providing a boost to the local economy.

The grant was formally announced by EPA-New England Administrator Robert Varney, at a ceremony (pictured above) attended by US Congressman Jeb Bradley, State Senators Jack Barnes and Ted Gatsas, State Representative Frank Bishop, Executive Councilor Ray Wieczorek, the Raymond Board of Selectman, Town Manager Richard Bates and DES Commissioner Michael Nolin.

DES is pleased to be working with Raymond on this important project and congratulates them on winning this critical grant. ■

Hampton 8th graders turn their school into a *Clean Air Zone*

The students in Hampton Academy Junior High's school yard are breathing a little easier, thanks to the efforts of a group of ambitious eighth grade students at the school. The group voluntarily participated in a program sponsored by Wheelabrator Technologies to raise environmental awareness among middle school students. This year, the Hampton Academy students decided to address the issue of school buses and cars idling in the school yard.

With a little help from the DES Air Resources staff, the project team began by surveying bus drivers and parents to learn about existing behavior and attitudes. Based on the results of the surveys, students gave out forms to parents asking them to sign a pledge for "No idling." Students were encouraged to bring back signed forms from their parents and received stickers and movie pass raffle tickets when they did. The project team also put up "no idling" signs around the school yard to remind drivers to turn their engines off.

The students presented their project at a two-day Northeast regional symposium in Boston this spring. The students were rewarded for their efforts, receiving the Best Integrated Environmental Project award for best all-around project of the symposium.

DES has many resources available to help implement "no idling" campaigns. To learn more, contact Kathy Brockett of the DES Air Resources Division at 1-800-498-6868, (603) 271-6284, or kbrockett@des.state.nh.us. ■

www.des.nh.gov

Do you owe money to DES?

By Gretchen Hamel, Administrator, Legal Unit

Money can be owed to DES for a variety of reasons. One of the more common reasons is an annual fee, such as the dam registration fee. Another involves checks submitted for application fees that are returned due to insufficient funds, frequently after the permit or approval has been issued. DES also exercises its authority to impose administrative fines in enforcement cases where a monetary penalty is appropriate but the case does not rise to the level of a civil penalty. Most people recognize their obligation to pay promptly. Those that do not create a burden on the agency and, if allowed to not pay at all, gain an unfair advantage over their counterparts.

DES thus has reinvigorated its efforts to collect on outstanding debts owed to the agency. Since January 2006, DES has initiated four small claims actions to collect on unpaid administrative fines. Over a dozen more actions are in the works to collect overdue dam registration fees and application fees that were paid by checks that bounced.

Small claims actions are intended to be a "simple, speedy, and informal procedure" by which claims for amounts not exceeding $5,000 can be adjudicated, per RSA 503. DES small claims are filed in the Concord District Court. In order to file a small claims action, DES must be able to prove that the money is owed and that attempts to collect the debt have been made. If DES prevails in the action, the judgment will include costs and interest at the statutory rate from the date the action was filed. If the action was initiated to collect on a bounced check, the judgment also will include bank fees and a penalty of $25 or 5 percent of the face amount of the check, whichever is larger, per RSA 6:11-a.

Currently, any debt that exceeds $5,000 is referred to the Attorney General's Office for collection. However, since New Hampshire's District Courts also have jurisdiction (concurrent with Superior Courts) to hear civil cases in which the damages do not exceed $25,000, discussions are underway regarding the possibility of DES pursuing claims exceeding $5,000 in District Court. ■

EHP assesses the Chlor-Alkali Superfund site

The Environmental Health Program (EHP) Risk Assessment/Toxicology Section has a varied mandate and responds to a number of public health issues affecting communities within the state, including state Superfund sites. The original Superfund legislation enacted in 1980 mandates that a public health assessment be conducted at every hazardous waste site that EPA proposes to add to the National Priorities List or "Superfund."

A public health assessment is a tool to determine what kind of actions are needed to protect the health of a community where a hazardous waste site is located, and to determine the need for follow-up health activities (e.g., epidemiological studies and community health education). The public health assessment incorporates three types of evaluations: the identification of pathways of exposure to site contaminants and an evaluation of their public health implications; a summary of relevant and available health outcome data (i.e., cancer registry data); and evaluations of specific community health concerns related to the site.

The former Chlor-Alkali site, located on the Androscoggin River in Berlin, was actively involved for a number of years in paper manufacturing. From the mid-19th century through the early 1950s, a chemical mill located on the site produced chlorine and other raw materials used by local paper mills to manufacture paper. As a result of these past activities, various contaminants, including elemental mercury, have been released from the site. Despite recent actions taken to restrict the movement of contamination, mercury and other contaminants continue to migrate into the river.

EHP has been preparing the public health assessment for the former Chlor-Alkali site since its addition to Superfund last year. The assessment will be released for public review and comment by early summer. EHP has already met with Berlin city officials and other stakeholders to notify them of the preliminary findings and to begin developing outreach and health educational strategies for this community. Eric Abrams is coordinating the public comment release of the document. Anyone interested in obtaining a copy of the public health assessment can contact Eric at (603) 271-5870 or eabrams@des.state.nh.us. ■

Alice Peck Day Hospital receives OSHA's prestigious SHARP Award. SHARP certification is awarded to organizations having implemented exceptional workplace safety and health programs.

Governor

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vesting closures in the 1980s, the State of New Hampshire began an effort to examine shellfish harvesting areas, identify pollution sources, and conduct the monitoring necessary to reopen the clam flats and oyster beds. Early successes in Hampton-Seabrook Harbor eventually led to the development of the DES Shellfish Program, which works collaboratively with the New Hampshire Fish and Game Department, the New Hampshire Department of Health and Human Services, and others on issues such as water quality, shellfish resource health, and laboratory analyses of "red tide" and other contaminants.

Additionally, the DES Program has classified nearly all tidal waters in the state, and has expanded recreational harvesting opportunities for the state's citizens by reopening over 600 acres of shellfish waters. The DES program has been recognized as being in compliance with national classification and regulatory standards, which has led to the creation of a small commercial shellfish aquaculture industry in the state.

The DES Shellfish Program had been funded almost entirely by federal funds. However with an anticipated cut of two-thirds, the NH Estuaries Project Management Committee, a group of local, state, and federal coastal stakeholders, initiated a legislative effort through HB 1747 to replace the lost funding. I recently had the opportunity to sign HB 1747 into law. The new law brings critical funding to the DES Shellfish Program. I am pleased that DES will be able to continue this valuable work that helps us better manage and restore the resources of our state's estuarine and coastal waters.

John Lynch, *Governor*

Get real-time information on these hot summer issues

Air quality: www.airquality.nh.gov

Beach closures: www.des.nh.gov/Beaches/index.asp?theLink=current

Lake levels: www.des.nh.gov/RTi_Home/

Shellfish bed closures: wildlife.state.nh.us/Fishing/clam_flat_status.htm

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Join today!

One less car!

National Bike/Walk to Work Day was postponed in New Hampshire due to the May floods, and then was nearly rained out again two weeks later. But a few intrepid DES cyclists braved the inclement weather and kept their cars at home on June 2.

Whether it's an officially-recognized day or not, biking and walking reduces pollution, saves fuel and money, and helps to keep you fit.

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

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